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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/560,792

12/15/2005

Zhinong Ying

9564-6

7404

20792 7590 09/28/2007  
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EXAMINER

TRAN, CHUC

ART UNIT

PAPER NUMBER

2821

MAIL DATE

DELIVERY MODE

09/28/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

514

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/560,792		YING ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Chuc D. Tran		2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/13/06</u>  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Annamaa et al (USP. 7,126,546).

Regarding claim 1, Annamaa disclose a communication terminal in Fig. 1-3, comprising: a speaker (102) (Fig. 1) and a low profile built-in radio antenna element (105) (Fig. 1), wherein said antenna element comprises a flat sheet (210) (radiator component) (Fig. 2) incorporating a conductive antenna trace (211) (Fig. 2), and wherein an exciter (audio) (Col. 3, Line 8) (Fig. 2) is connected to said sheet (210) and devised to induce vibrations therein for generating sound (Col. 1, Line 40) and (Abstract), said antenna trace (211) having a substantially flat pattern of conductive material carried on said sheet (210) (Fig. 2).

Regarding claim 2, Annamaa disclose that said sheet (210) is made from an insulating material (215) (Col. 2, Line 17).

Regarding claim 3, Annamaa disclose that said sheet (210) is made from a plastic material (215) (Col. 2, Line 17).

Regarding claim 5, Annamaa disclose that said exciter (audio) is connected adjacent to a side edge of said antenna element (211) (Fig. 2).

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Regarding claim 6, Annamaa disclose that said exciter (audio) is insulated from said antenna trace (211) (Fig. 2).

Regarding claim 7, Annamaa disclose that said exciter (audio) comprises first and second speaker signal connectors (241, 242) (Fig. 2).

Regarding claim 8, Annamaa disclose that said antenna trace (211) defines an antenna patch (Fig. 2).

Regarding claim 9, Annamaa disclose that said antenna trace (211) is connected to a radio feed circuit (221) of the terminal, and to a ground plane (GND) (Col. 2, Line 31-42) which is spaced from the antenna patch (Fig. 2).

Regarding claim 10, Annamaa disclose that said antenna element (210) is positioned parallel to a ground plane (GND) (Fig. 2), wherein a spacing between the antenna element and the ground plane acts as an electromagnetic resonance cavity (Col. 4, Line 57-67).

Regarding claim 11, Annamaa disclose that a cover (shell) member of the terminal (Fig. 1) comprises an aperture adjacent to said antenna element (Col. 1, Line 26).

Regarding claim 12, Annamaa disclose that a sound channel (aperture) extends from a position adjacent to said antenna element (101) to a channel front outlet at a front side of the terminal (Fig. 1) (Col. 1, Line 25).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Annamaa in view of Nitta (USP. 4,851,654).

Regarding claim 4, Annamaa disclose a communication terminal comprise the flat sheet (210), but does not indicate the specific manner of said sheet is made from a ceramic material. Nitta discloses in Fig. 3 the flat sheet (45) is made from a ceramic material (Nitta, Col. 3, Line 57). Because both Annamaa and Nitta teach a speaker and a antenna device for generating sound. Thus, it would have been obvious to one of ordinary skill to substitute one dielectric material for the other such as ceramic material to achieve the predictable result of producing vibration in the ceramic sheet See (Nitta, Col. 4, Line 2).

Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Annamaa in view of Kiguchi et al (USP. 6,973,710).

Regarding claims 13 and 14, Annama disclose a communication terminal comprise the antenna trace (211) formed on the flat sheet (210) (Fig. 2), but does not indicate the specific manner of said antenna trace is printed or etching on said sheet. Kiguchi disclose a communication terminal in Fig. 3, comprising the antenna trace (32) is printed or etching on the flat sheet (31) (Col. Line 33) and (Col. 6, line 40-47). Because both Annamaa and Kiguchi teach a speaker and a antenna device for generating sound. Thus, it would have been obvious to one of ordinary skill to substitute one method of printing or etching the antenna trace on the flat sheet for the other to achieve the predictable result of producing a vibration on the flat sheet See (Kiguchi, Col. 6, Line 43-50).

***Inquiry***

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuc D. Tran whose telephone number is (571) 272-1829. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TC  
September 21, 2007

*Douglas W. Owens 9/25/07*

**DOUGLAS W. OWENS  
SUPERVISORY PATENT EXAMINER**